

M E T H O D S

FOR

I M P R O V I N G

T H E

Manufacture of Indigo :

ORIGINALLY

Submitted to the CONSIDERATION of the
Carolina Planters ;

AND

Now published for the Benefit of all the
BRITISH COLONIES,

Whose Situation is favorable to the Culture
of **I N D I G O.**

To which are added,

Several public and private Letters,
Relating to the same Subject.

By an Experienced D Y E R.

D E V I Z E S,

Printed for the Author by T. BURROUGH,
M.DCC.LXXVI.

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TO the RIGHT HONORABLE

The Lords Commissioners

O F

TRADE and PLANTATIONS.

May it please your Lordships,

THE following Copies of Publications and Letters, relate to the improvement of that valuable commodity *Carolina Indigo*: The methods recommended are so simple, and the expence of them so very trifling, that it is truly astonishing they have been no more attended to by the planters.—Convinced from the trouble I have taken, and the expences that have attended my solicitous attempts to advance the quality of this Dye, that the endeavours of an individual will have but little effect, I humbly presume to lay what has passed on this subject before your Lordships, whose sanction and influence will, I flatter myself, be productive of the desired end.

T H E

THE propriety of the experiments proposed, the reasonableness of the arguments urged in support of them, and the countenance and encouragement they may be thought to deserve, are entirely submitted to your Lordships' superior wisdom.

I am, MY LORDS,

Your Lordships' most obedient

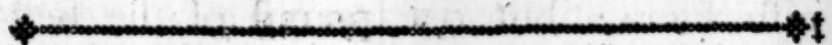
and most humble Servant,

MELKSHAM,
March 1st, 1776. }

John Ledyard.



M E T H O D S
F O R
IMPROVING the MANUFACTURE
O F
CAROLINA INDIGO, &c.



AS Indigo is an article of trade of considerable importance, every hint for improving so valuable a commodity, calls for the attention of those concerned in its manufacture.

It is well-known that the Spanish and French Indigo, is by much preferable to that made in Carolina, and that the Spanish Copper Indigo particularly is as rich again as the best Carolina Copper: And tho' some of the latter appears to the eye equal to the former, yet when brought to the Trial by the Dyer, proves really much worse: And large quantities are made worth very little. The Spanish and French Indigo in grinding with water smells sweet,
but

but Carolina Indigo generally is *very offensive*, and some of it *stinks most disagreeably*.

The natural consequence of the great inferiority of the Carolina Indigo is, that the Dyer is frequently deceived; which proves a detriment to trade, and a personal loss to himself.

It must be observed that this difference between the French and Spanish, and Carolina Indigo, does not consist in the *goodness* or *badness* of the colour contained in the Indigo, but in the *quantity* of it: The *worst* of the latter will dye as beautiful a blue colour on woollens, as the *best* Spanish Flora; but one pound of the best Spanish Indigo, contains as much colour, and will dye as much as ten or fifteen pounds of some weak Carolina Indigo.

There appears then to be some very material difference in the manufacture of this commodity by the Spanish, French and Carolina planters; and this difference in the management of it, may be the true cause of the *great inferiority* of the Carolina Indigo.

The method Mr. Hopton, (a Carolina planter) relates, is as follows, viz. "They ferment the plant six hours for Flora, and from one to two days for Copper-coloured Indigo, in a large cistern or vate, covered over with water, which often turns to a state of putrefaction, and stinks very much, which must hurt the Indigo greatly: when
it

it is settled they let it run into a small vate, and churn it with lime-water 'till it separates and grains;" after the same manner in which it was made in 1754, of which there is an account in the Gentleman's Magazine for May and June, 1755.

Now it is very evident that *Putrefaction* is of the greatest prejudice to Indigo, as it destroys (if suffered to continue but a short time) the blue colour contained in it: and as Lime from experience is known to be the only effectual preservative of the Indigo against putrefaction, it seems clearly to follow, that the using of Lime more plentifully in the making of Indigo, would be at least, a probable method to fix and preserve the blue colour from putrefaction, and the injury that necessarily attends it.

That Lime is very friendly to Indigo, appears from the use made of it by the Dyers. When the Carolina Indigo is ground with water for dying, it smells excessive bad; (as I observed before) to prevent which, some Dyers put *Flour* of Lime to it, which takes off that disagreeable smell, and makes it grind sweet. In dying Blue, the Dyer brings the Liquor in the vate with woad, some lime, and Indigo ground with water, to a fermentation:----- While it is fermenting, if there is not the greatest care taken, it will soon be in a state of putrefaction; and then all the blue
colour

colour in the vate will be lost, and cannot be recovered, whether Spanish, French or Carolina; (being all the same in this respect) so that no Blue can be dyed from that Liquor: and was not a proper quantity of lime used to prevent the putrefaction, this would always be the case.

From these facts Lime appears to be of essential service in dying with Indigo, and from a thorough knowledge of the usefulness of Lime in numerous instances, I think it highly adviseable for the Carolina planters to try the methods here proposed,

In fermenting the plants for Flora, use weak Lime-water instead of common water, and let it ferment a longer time than usual: * In working the next vate stronger Lime-water should be used, 'till by repeated trials, the strength required in the lime-water can be determined with exactness. I believe very strong lime-water may prevent, or lessen the fermentation, in which case there will be but little Indigo obtained.

As soon the fermentation ceases, or a little before if possible, let the green liquor run off into the churning cistern, then put a larger or stronger quantity of lime-water to churn with, than you generally use

* As to Copper Indigo, great Care must be taken to prevent putrefaction as soon as the fermentation ceases—or it might be best to stop the fermentation a little before it ceases of itself.

use now: (but if lime-water be used to ferment with, weaker lime-water may be necessary in churning.) In the next churning use stronger lime-water or a larger quantity still, in order to know what quantity of the salts of lime is necessary to fix and preserve the colour. Besides, it is better to use too much than too little lime-water, for this reason, viz. the green liquor hath a natural tendency (after the fermentation ceases) to a state of putrefaction, in a few hours to be so much putrified as to injure the Indigo greatly, and in a day or two so much as to destroy most, if not all the blue colour in it: And this putrefaction, which (according to Mr. *Hopton's* account) often follows the fermentation, is the reason why the Carolina Indigo has that disagreeable smell in grinding, and of its being so liable to be ruined in a moist state, which I have found to be the case by experience in working it for dying Blue. On the contrary, by using too much, or too strong lime-water in the churning vate, the Indigo cannot receive any damage, neither can the dyer be injured thereby, as the colour will be preserved in quality and quantity the better for it.

I think it may be known when there is a proper quantity of lime-water, or salts of lime used in the churning vate, by this circumstance;

circumstance ; if there is a sufficient quantity, there will (after the liquor is brought to grain, and is left to settle to the next day) on the surface be a stony crust or scum, the same as on lime-water that has stood a day or two : if this scum does not arise, it will prove that the quantity was not sufficient, and that more lime-water ought to be added 'till the scum is produced.

It might be advantageous to preserve the liquor that is drained from the Indigo after churning (if it be sufficiently strong, which may be known by the stony scum) to ferment with fresh plants instead of simple lime-water : this liquor having retained some of the juice of the plants, would perhaps dispose the fresh Indigo to ferment more kindly, yield a richer colour, and produce a larger quantity. This liquor should be sufficiently impregnated with the salts of lime, otherwise in fermenting with it a second time, putrefaction would ensue ; which ought particularly to be guarded against through the whole process.

I apprehend the more the plants are fermented the more colour will be obtained, and I am inclined to think that using this liquor will promote and increase the fermentation, and (if sufficiently replete with the lime-salts) without becoming putrid.

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I know of nothing that will secure the the colour of Indigo but the salts of lime properly managed. The Lime used for this purpose should be made of stone, the strongest that can be procured, oyster-shell lime being very weak and good for little.

I have been informed by a Carolina planter, that when the Indigo plant is fermented a considerable time, it is common for it to putrify and become rotten, in which condition it produces innumerable flies, which torment man and beast for miles round, and that to such a degree as to force people from the Indigo work, to escape such a plague. Now there can be no better remedy against this evil than lime: That strong lime-water will prevent putrefaction in animal substances, and destroy the eggs of insects laid in them, or hinder their being laid, the tanners and fellmongers can confirm: when the raw-skins are brought to them in the summer-time; if ever so full of these eggs or maggots (from whence flies proceed) as soon as the skins are put into the lime-water-pits, the insects and their eggs are all destroyed: and as long as the skins lie there, they are kept sweet; and if they are taken out and exposed to the air, the flies will not touch them for several days. From hence I am inclined to think it might be the

the best way to put strong lime water to the indigo plant after it is sufficiently fermented, while it is in the fermenting vate, (instead of putting it into the beater) well mix it, and let it stay an hour before the green liquor is let run into the churning vate : this method might keep the Indigo plant from putrifying so soon, and prevent the flies from coming to life, and consequently remedy that inconvenience. The more the plant is fermented, the more lime-water will be wanted, but the strength and quantity, experience only can determine : It will however want more or stronger lime-water than if the lime water was put into the vate for churning.

I have used large quantities of Carolina Indigo for some years-past ; and have not met with any equal to the Spanish and French. It is certainly an object worthy of attention. I therefore earnestly recommend the above experiments or similar ones to be tried ; if they do not prove successful, they will not be attended with much expence ; but should they answer the end desired, the advantages will be very considerable ; for every one knows that the goodness of an article will promote its sale : and if Carolina can be made to produce Indigo equal to the French and Spanish, no Englishman will hesitate which to prefer.

EX-

EXPERIMENTS

I could wish to be tried, to determine which would make the most blue Colour, from equal quantities of the plant.

1 **F**ERMENTING with *common water*----

Work off one vate with the Indigo-plant 6 hours, one vate 12 hours, and one vate 24 hours, then put strong lime-water to it in the fermenting cistern; the longer it has fermented the more or the stronger the lime-water must be, for reasons before mentioned.

2 Fermenting with *weak lime-water*-----

Work off one vate 6 hours, one 12 hours, one 24 hours, and one 36 hours, then put the lime-water as above, No 1.

3 Fermenting with *strong lime-water*-----

Work off one vate 6 hours, one 12 hours one 24 hours, and one 36 hours, then put the lime-water as above, No. 1.

4. Fermenting with the *liquor drained from the churning vate*, with a proper degree of the strength of the lime in it----

Work off one vate 6 hours, one 12 hours, one 24 hours, and one 36 hours, when sufficiently fermented, put *strong* lime-water as No. 1.

The manufacture of Arnotta might, I think, be improved by trying the same methods as I have proposed for Indigo, it being made on the same principles.

MELKSHAM, Wilts, }
April 22, 1772. }

JOHN LEDYARD,
BLUE-DYER.

The fore-going was printed in England, but not published, Mr. LEDYARD being desirous of secrecy, to prevent any reflections from persons, either interested, or of different sentiments: tho' he thought it precedent to consult a few persons of whose knowledge of the subject there can be no doubt, whose approbation and advice confirmed him in his designs, which will be understood by the following Advertisement in the Carolina Gazette.

Charlestown, August 10, 1772.

MR. JOHN LEDYARD of Melksham in Wiltshire, formerly of Trowbridge, a very eminent and experienced Blue-Dyer, from a laudable desire of improving the Carolina Indigo, has at his own expence published a pamphlet entitled, "Methods for improving the Manufacture of Carolina Indigo, submitted to the consideration of the Carolina Planters," wherein he has stated several experiments that he would wish to have tried; and as he believes that the lime-water made from oyster-shells is not strong enough for the process, he has sent over here thirty hogsheds of English lime, which he is of opinion, is both stronger and better for making the said experiments. Any gentleman a planter of Indigo, may have one of the pamphlets gratis, by applying at

Robert

Robert Wells's great Stationary and Book Store, and the Lime at the first cost and charges, from *George-Abbot Hall, and Co.* who will take from 100lb. to 200lb. of Indigo made according to the experiments proposed by Mr. LEDYARD in the said pamphlet, for which they will give the price it may be esteemed worth here, or judged worth in England ; which Indigo is for Mr. LEDYARD, in order to enable him to form a true judgment of the quality and value of Carolina Indigo, he having much at heart the improvement of that valuable article of commerce.

The following Strictures on Mr. LEDYARD's Pamphlet, soon after appeared in the Carolina General Gazette.

FOR THE GENERAL GAZETTE.

IT is commendable in any man to give such hints to the public, as he thinks, may improve any manufacture or valuable article of commerce, and however they may, or may not, upon experiment, be found to succeed, his good intentions at least merit his country's thanks. At the same time it is fully as commendable to be cautious of publishing any thing that may tend to prejudice the minds, not only of our own country-men, but of foreigners against an article which is likely to become one of the principal staples of a
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country,

country, and thereby to be of infinite hurt to it.

A pamphlet of this cast has been lately published in England by a Blue Dyer, and distributed about, proposing some experiments, and sets out with informing the world, that the Spanish and French Indigo are by much preferable to that made in Carolina, and that the Spanish Indigo in particular is as rich again as the best Carolina copper. Again, that one pound of the best Spanish Indigo will dye as much as ten or fifteen pounds of weak Carolina Indigo, a prodigious difference indeed! at the same instant he allows that the worst of the latter will dye as beautiful a blue colour as the best Spanish Flora! Is not this a strange jumble, and an attempt to prove too much?

But, as from long experience, I hope I can shew that the Blue Dyer is greatly mistaken in his notions with respect to Lime-water, so I doubt not but upon a proper and faithful experiment of the different dyes of Spanish, French, and Carolina Indigo, he will also be found to be as greatly mistaken; for, although it is probable, from a longer experience in making of Indigo, that the French and Spaniards do make it somewhat preferable to ours, yet as the Indigo is made from the same plant, and with as good water, it is morally

rally impossible that the difference in quality can be so much as one to fifteen, or even two to one, or in any very great disproportion.

With respect to the difference of stone and oyster-shell lime, I shall say nothing, as we are unacquainted here with the former, the latter we find full strong enough to answer every purpose. And that weak Carolina Indigo mentioned in the pamphlet, was probably made by adding too great a quantity of strong lime-water; and from experience I know, that the colour of Indigo may be reduced by the force of Lime-water to a pale fig-blue, or lighter, even to that of slate. The gentleman has certainly written, as it were, in the dark, for he speaks of its being liable to be ruined in a moist state, and in the same page says, "After the liquor is brought to a grain, and left to settle to the next day, and even longer, 'till a scum is produced by adding more lime-water, &c." I will set him right here, and inform him, that the Indigo-makers are particularly cautious that it does not remain long in a liquid or moist state, for the weed that is growing in the morning is made into Indigo, and by the evening of the next day is sufficiently pressed, cut into hard lumps or squares, and put away into some convenient place to dry thoroughly; so

that there can be no such a thing as *putrefaction*, and he may be assured that they put in a sufficient quantity of lime-water, as otherwise the produce would by no means answer their purpose: Formerly indeed, before they came into the quick method of making and curing, the Indigo lay some days in a liquid or moist state, and then very often the finest mud became putrid, and when dried, was of a grey or slate colour, whatever was the quality or quantity of the lime-water.

One of the experiments proposed to be tried, is to steep the weed in lime-water, this has been thought of before, and upon trial found not to answer, the lime-water causes the Indigo to grain in the steeper, which immediately settles among the weed, adheres to it, and cannot be drawn off into the battery.

Another experiment proposed, is to save the liquor when drawn off from the battery, and to steep the weed in that. This has also been tried by many through necessity when the water in a dry season has failed, but no advantage arose from it, the indigo made with it was but tolerable, and in no great quantity.

Upon the whole, from the present expeditious quick methods of making and curing of Indigo, it is not to be doubted but that we shall soon, if not in the present
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lent crop, make it equal to the French or Spanish, unless the planter is misled by a too free use of lime-water.

I now take the liberty on my side, to propose a query or two, *viz.*

I. Whether frequent instances could not be produced, where the *best* Carolina Indigo has been picked out, and sold for French, and the *Bad* sold under the denomination of Carolina Indigo, to the great hurt and prejudice of the province?

II. Whether the Blue Dyer has not been supplied with the *bad sort*, and from what he has experienced of it, has formed his notions of Carolina Indigo?

III. Whether prejudice does not appear to operate with him against Carolina Indigo?

I am, &c.

August 22, 1772.

A PLANTER.

MR. LEDYARD, *thinking himself under an obligation to answer the objections made in the fore-going Letter, and to vindicate his intentions and conduct, which were struck at in it, transmitted the following Reply.*

To

*To the Printer of the South-Carolina and American
General Gazette.*

SIR,
YOUR regard to the commercial advantages of your
country, and impartiality to me, who am a sin-
cere well-wisher to my fellow-subjects on both
sides of the Atlantic, especially those employed in
useful Manufactures, will, I doubt not, influence
you to give the following a place in your paper,
which will much oblige,

Your unknown humble Servant,

JOHN LEDYARD.

*To the Author of a Letter in the Carolina
Gazette, of Aug. 24, 1772, No. 725,
Signed "A PLANTER."*

SIR,

Melksham, Wilts, May 29, 1773.

THE observations with which you in-
troduce your remarks on my proposed
methods for improving the Carolina Indigo,
are undoubtedly just; but your applying
the last of them to my pamphlet, is by no
means so. You will allow, that unless the
disease be specified, no remedy can with
propriety be proposed; that unless the ma-
nufacturer be convinced of the defects of
his manufacture, he will not attempt any
improvement of it. Now by what method
must he be convinced that the article he
trades in is defective, except by a fair re-
presentation of the bad properties of that
article, founded on a long course of ob-
servation and experience, and communi-
cated

cated to him? My pamphlets were printed, and sent to Charlestown in the most secret manner, and there delivered gratis to the Carolina planters, for whose sole use they were intended; and to prevent any injury that might result from their being spread abroad promiscuously, I suffered none of them to be given away at home, no not among my friends, 'till lately. Besides, the plain and obvious design of the author, was to prove the great inferiority of your Indigo to that of the Spanish and French, and to stimulate the planters to an improvement of it, so as to render our dealing in that article with foreigners, unnecessary. Your assertion therefore, that my pamphlet has a tendency to prejudice the minds of our countrymen or others, against your Indigo, discovers certainly a want of Candour.

You express great astonishment at the vast difference which I assert to be between the Carolina Indigo and the foreign; your surprise will increase when I tell you an indisputable truth, which is, that *your Indigo is so far from growing better, that one pound of the best Spanish Flora, will yield as much blue Colour as twenty-four pounds of some lately imported from your province, the produce of last year, many casks of which I have seen, not really worth sixpence a pound for the dyer's use. You think*

think I make a "strange jumble," when I say that your Indigo dyes as beautiful a blue as the best Spanish, and yet declare it to be so much worse: the truth is, yours contains as good a colour, but the quantity of that colour is so much less, as to be in the proportion I mention; what remains after the colour is absorbed, being merely moist earth, the state to which putrefaction will bring all substances where it predominates. If after all, you will refuse your assent to what I have advanced, and which every experienced dyer knows to be facts, as well as myself, the time will come when you will *feel the force of more sensible conviction*. When what remains of the produce of 1771, and the large quantities imported of last year's making are disposed of, you may have *some clear proofs* of the truth of what I have written, the only motive to which was, and still is, to prevent the ruin of a branch of trade, the establishment and success of which I have much at heart. And I assure you, Sir, and the rest of your brethren, the planters of Indigo, that nothing less than a stop to the importation of Spanish and French Indigo, can induce us to use yours, unless some amendment is made in it, or the price proportioned to its just value.

None can deny that the dyer must be much better acquainted with the properties

ties

ties of Indigo than the planter; and from many years' close application to the Dying business, and observation particularly on this dye, I have a sufficient reason to be assured, that the cause of the bad condition in which we receive your Indigo is *putrefaction*. What will account for the offensive smell your Indigo always has in grinding it, but that it has been already putrid, or is so ill cured as to be ripe for putrefaction the instant it becomes moist? What reason can be assigned for the great loss of colour in it, but that it has been destroyed? And what can destroy its colour but *putrefaction*? If I suffer a vate to be neglected, the dye soon putrifies, and the colour is lost; but if proper care is taken, putrefaction is prevented, and the colour preserved. It follows then, from these observations, that the deficiency of colour in your Indigo, is occasioned by *putrefaction*, either immediately after the fermentation of the plant, or in the drying of the substance produced by it.

Now from the great advantages dyers receive from, and the constant use they are obliged to make of *Lime*, to prevent or stop putrefaction, I can with confidence maintain, that Lime is the only substance which will, if judiciously applied, effectually preserve your Indigo, and prevent the subsequent loss of the dyer, as well as

that of the planter ; for with him the loss must in time terminate.

The short extract you make from my pamphlet, is part of a method I proposed for determining when there is a sufficient quantity of the virtue of Lime in the churning vate, and does not contradict what I elsewhere assert, viz. That the Indigo is in a moist state liable to be ruined ; for if there was lime enough in the process, the Indigo would be kept from putrifying even when moist ; whereas it appears now to be injured when moist, for want of a proper quantity of lime, or lime-water of a sufficient strength. You say, that in the old tedious method of making and curing Indigo, it lay moist so long as often to become putrid, and when dry of a slate colour, whatever was the quantity or quality of the lime-water ; which proves nothing to the purpose, except it be that your oyster-shell lime is too weak to *preserve* the Indigo, though it may be strong enough to effect a separation, and bring it to grain : you acknowledge you are ignorant of *stone-lime* in your country, and that is the only lime I think potent enough for your use. I am inclined to think, there must have been some mistake in the trial which you say has been made of one of my experiments, or in the account you give of it ; for during fermentation, how
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is it possible the particles can grain and settle among the weed? It is fermentation that extracts the colour from the weed, and as soon as the fermentation ceases, the liquor should be run off into the battery, so that there appears no probability of the colours mixing with the weed: if it is really the case, I cannot account for it. Here I would observe, that when the fermented liquor is run off into the battery, it may be adviseable to cover the weed with lime-water for about fifteen minutes, when it may be discharged into the battery, which would prevent the plants becoming putrid when taken out of the steeper, and facilitate the graining in the battery. As to the other experiment, which you say has been tried through necessity, I observe it does not come up to the method I proposed; the liquor drained from the battery should not be put to fresh plants, unless it was sufficiently impregnated with salts of lime; if it had been replete with those salts, I have no doubt but it would have succeeded; but as you usually proceed, the liquor thus drained off, would be more disposed to putrefaction in a second steeping, than fresh water. I therefore repeat it again, that the planter cannot err in using too much or too strong lime-water; and I verily believe, were the methods I propose fairly

tried, that some process might be adopted which would restore the credit of your Indigo, and bring it to equal the foreign, or at least so near an equality as for the difference in goodness to be compensated by the difference in price; and then, as I said before, no Englishman will hesitate which to prefer.

In answer to your first Query, I inform you, that I and my neighbours have ere now been imposed upon in buying French Indigo, which has had some of yours beat small and mixed with it; and in reply to your second, the large quantities I have used of different sorts, and the different degrees of goodness I have observed in them, enable me to form a proper judgment of their respective merits; and from a thorough knowledge of the various kinds, I can prove that the *best* of yours, a little Flora excepted, is inferior to the *worst* of Spanish, or even French, unless the latter has been adulterated.

Your third question naturally leads me to do myself justice, by refuting the charge of *prejudice* you indirectly bring against me. A prejudice in favor of my country and its productions I avow: it is inherent in every true Briton; and that partial esteem I ever had for my country-men in every part of the British empire, has induced me always to give their manufactures

tures the preference, when it could be done without injuring Trade. From the year 1760 to 1770, I used more than forty thousand pounds weight of Carolina Indigo, and should have used it till now, had not necessity forced me to desist. The reason of my being obliged to buy foreign was, that yours was worse in proportion to the price than the foreign, the difference in price not being equal to the difference in goodness. Finding myself, and most of the considerable Dyers in the kingdom, obliged to buy Spanish or French Indigo, I was anxious to attempt the improvement of this valuable commodity among ourselves, by endeavouring to inspire the Carolina planters with a spirit of emulation, that would carry them to the highest perfection in it. I took some trouble, and was at some expence, in printing the methods which I am satisfied are calculated to answer my wishes. With my pamphlets I sent over thirty hogheads of our English stone-lime; the former to be dispersed Gratis, the latter to be disposed of at the first cost and charges. In order to excite some attention to my scheme, an advertisement was inserted in this paper last August, by G. Abbot-Hall and Co. in which I offered to take from 100lbs. to 200lbs. of Indigo, made according to my directions, as a specimen for trial; for
which

which I was to give the price it was determined to be worth in Carolina or in England. From this view of my conduct in this affair, I will submit it to any impartial person to determine, whether prejudice against the Carolina planters, and their Indigo, or an ardent desire to promote their interests, and its improvement, appears to operate most with me. Let not the planters then indulge ill-natured reflections upon me; for their own sakes I desire them to make candid and accurate trials of my methods, and adopt or reject them as the event will justify.

I once more declare my resolution of abiding by my advertisement, mentioned above, and if any planter has public spirit enough to quit the vulgar track, and make an impartial trial of the several modes of process I have proposed, and will consign a specimen of the product to me, I will return him a faithful account of the success, and which method appears to succeed best.

Permit me, Sir, to tell you, that I am very sorry you should endeavour to strengthen and confirm those prejudices, which I have with the greatest reason been attempting to remove, and to assure you, that whilst you continue to form your opinion of my plan, without a previous impartial trial of it, you will not establish the credit of your Indigo, nor appear to have

have that concern for the welfare of your own manufacture, which has been, in this affair, the only motive with, SIR,

Your humble Servant,

A hearty well-wisher to the Carolina planters,

JOHN LEDYARD.

P. S. Having sent over some more hogheads of STONE-LIME, for those who are disposed to use it, I would inform them, that it must be kept close and dry, otherwise the Spirit of it will be lost, and the intention of the experiment frustrated.

A few copies of Mr. LEDYARD's pamphlet are ready to be delivered at my shop, gratis, to Gentlemen concerned in the Culture of Indigo.

ROBERT WELLS.

This Reply to the Planter, though dictated with the greatest Candour, conceived in the most respectful terms and (as Mr. Ledyard supposed) calculated to convince the planters of the propriety and necessity of his disinterested proposals, occasioned notwithstanding the following warm Address.

To Mr. J. Ledyard, of Melksham, Wilts.

SIR,

I Conceive it to be my indispensable duty, whenever any thing is published, tending to depreciate the value, or injure the reputation, of Carolina Indigo, without any just cause, to point out its fallacy, whether it originated from misinformation, design or accident.

And

And therefore, I must take upon me to remark, upon your letter of the 29th of May, inserted in Mr. Wells's Paper of the 13th instant,

1st. That the oyfter-shell lime used in this province, in the making of Indigo, is not only of sufficient strength, but preferable to stone lime.

2dly. That more than one trial was made of your lime, so much to the cost of the planter, that above one hundred vates of Indigo have been spoiled by the experiment : For,

3dly. That the Indigo made with stone lime, proved to be a hard flinty Blue or shining copper, 30 per cent. inferior to the mellow kind made in the usual way, which though it does not look so well, is certainly the right dyer's Indigo. This inferiority I assert upon fair trials by me made.

4thly. That you seem to assert too much when you say, " Carolina Indigo is so far from growing better, that one pound of the best Spanish Flora will yield as much colour as twenty-four pounds of some lately imported from this province."

Give me leave to tell you, Sir, that such an assertion does not clearly appear to be meant to serve either the maker or exporter of Carolina Indigo. If it can be true, it must have been common Fig Blue, (one pound of which contains about one ounce of

of real Indigo, sent home purposely to impose on the ignorant, or to serve some other more base purpose.

If you would acquit yourself from any suspicion of an unworthy design, it will be easy for you to declare to Messrs. Wraxall, Hall, and Co. or Messrs. Neufville and Rolleston, Merchants in Bristol, at what stores, and from whom it was bought.

For, I do aver (and my long experience in Dyes will justify me in it) that I have never met with any Carolina Indigo so very bad: And, that the true value of such Indigo, the produce of this province, as I have garbled, sorted and sealed, is in the following proportion; when the best French or Spanish sells at seven shillings the pound, viz.

		s.	d.
CAROLINA,	First sort is worth	5	9
	Second	4	2
	Third	2	9

I will add, that if one pound of a certain root, which will open the pores instead of binding them, is thrown into a vate, the difference between the Carolina and foreign Indigo, will scarce be perceptible, or worth mentioning: Of this root I have desired Messrs Wraxall and Co. to deliver you a pound, as well as to distribute some among such other dyers as shall appear to them to merit the discovery of such a secret.

D

To

To give you the best opportunity of proving, whether you are really friendly to the culture of British Colony Indigo; and also to convince you, that I desire no more than that the Indigo of this province may have a fair chance or trial for its reputation, the gentlemen above-mentioned will also deliver you in my name, seven pounds and a half of my first sort, the same quantity of my second, and also of my third, that you may have its comparative value, with the best French and Spanish, duly ascertained. After which, I would beg you to make a declaration thereof before the worshipful Mayor and Aldermen of the city of Bristol, and then deliver the same to my correspondents there, to be transmitted hither for publication.

If you will do so much, I shall then have a more favorable opinion of your publications than I have hitherto entertained, and will remain, SIR,

Your Friend and humble Servant,

CHARLES-TOWN, }
August 16th, 1773. }

MOSES LINDO.

Mr. LEDYARD did not suppose that Mr. LINDO's Epistle required any particular replication, especially as what he had before written, was the result of cool and deliberate reasoning from facts in themselves indisputable—He therefore took no immediate notice of it, but refers to it in the following address to the Planters.

Suspecting

suspecting that some of the Planters had tried with success the methods proposed, and that they were disposed to keep it concealed, so as only to promote the advantage of individuals ; Mr. LEDYARD, whose aim was to make the Improvement of Indigo of general Benefit, drew up the following Address to the Planters, wherein he further presses them to a candid Trial of the Processes he recommended.

To the Printer of the South-Carolina and American General Gazette.

SIR,
THINKING it incumbent upon me to communicate the following to the Planters of Indigo in your province, I beg you to insert it in your Gazette, by which the hints may become more extensively useful, and by which you will oblige
Your obedient Servant,

J. LEDYARD.

To the Carolina Indigo Planters.

I Am inclined to believe, that some of the manufacturers of Indigo are now convinced of the advantages of *strong stone Lime-water* in the management of that Dye ; I wish you were universally sensible of its importance. The Experiments I proposed might have been made without any great hazard, not being of an expensive nature ; as I suppose half a pound of Stone Lime sufficient to preserve a pound of Indigo. Indeed I have reason to conclude that

Some of the methods I advised, were pursued last season; having received some small quantities from a planter lately, tho' without any account of the process made use of, (which was the condition on which I offered to take from one to two hundred pounds weight; a less quantity being insufficient for a dyer to make a proper trial of, which proposal I still abide by) but by a letter from Charlestown, I find they were made agreeable to my directions.

Not chusing to fix the value myself, I applied to Mr. Meyler, an eminent Broker in Bristol, who was greatly surprized on seeing it, not thinking it possible to produce so good Indigo from Carolina. He valued the parcel of purple at 7s. per lb. and the parcel of copper at 6s lb; and you may be certain that Indigo of such a quality will not fail to bear a good price.

These parcels of Indigo, I observed, smelled sweet in the grinding, as the French and Spanish does. It is really astonishing that any person should attempt to maintain, that oyster-shell lime; being produced from an animal substance, can retain so much fire, or be as strong or stronger than stone lime; as I am informed some gentlemen of the faculty in Carolina have done; whereas they must be themselves conscious of the weakness of any argument

ment brought to prove such an indefensible proposition. I address you not as chymists, but as persons capable of conviction from common and indisputable facts—The tanners, fellmongers, soap-boilers, sugar-bakers, masons, and dyers, all know the superior strength of stone lime; and the harder the stone, and the longer it is in burning, the stronger it will be. The oyster-shells, I am told, require but a few hours in burning, whereas the Bristol-stone, which is properly a marble, takes up commonly sixty hours, and consequently the lime produced from it is proportionably stronger.

Now if stone lime be the strongest, and strong lime be essential to the dyer in preserving the colour in his vates, it seems to follow that it is necessary also to the planter for the same purpose: The sugar planters use lime of the greatest strength they can procure, and hence it is that some thousands of casks are sent annually from Bristol to the West Indies.

It has been represented that I have been imposed upon, by the article of Indigo, and that I am consequently unacquainted with the real difference between the Carolina Indigo and the French and Spanish; but this will need no answer, when I tell you that my brother, his father-in-law, and myself, have used 30,000lbs. weight
of

of Carolina Indigo in a year, and that I have myself worked up three thousand pounds worth of Spanish, from 1770 to 1772, the Carolina Indigo being too dear in proportion to its goodness; and you cannot suppose I would give from 8s. 6d. to 11s. 6d. a pound for Spanish, if Carolina Indigo would have answered as well. As to the French, I have bought but little of it these twelve years for several reasons. The quantities I have used certainly form the best source of knowledge in any art resulting from experience.

It may be expected that I should take some notice of Mr. LINDO's answer to my last letter in this paper; but as the writer has made an apology for his manner of addressing me, I shall pass over his strictures with only observing, that *bright blue*, *bright purple*, and *bright shining copper*, will always sell well; the Spanish copper is *small*, *hard*, *flinty*, *bright* and *shining*, characteristics which that gentleman seems to consider as defects, but which will be found to be otherwise at market.

In fermenting the Indigo-plant, if it yields a sour, sickly, disagreeable smell, it is an evidence that the colour is decaying, if left thus for six or eight hours, the injury will considerably increase, and if afterwards it be slow in drying (as it sometimes happens) it will be almost lost. It
appears

appears to me then to be of great importance to preserve the vates, plant and colour from every degree of putrefaction, or tendency to it, which is discoverable by this sour, sickly smell. If the vates are not sweet, they will dispose their contents to become sour much sooner; as fresh milk put into a basin or bowl that is sour, will itself turn off much sooner than if put into a clean sweet vessel.

To prevent therefore this injurious circumstance, I cannot but think that fermenting with strong Lime-water would be very adviseable, by which the accident may perhaps be avoided; for it is certainly better and easier to prevent it, than to stop it when it has made some progress.

The use of strong Lime-water in the fermenting vate, would also be a means of preserving the whole apparatus sweet; but if this was omitted, and the fermenting vate emitted a sourish effluvia, nothing can be more proper to hinder its prejudicial effects, than to let it immediately run off into the beater, with the addition of strong Lime-water, which will keep it from further damage, and also facilitate its graining. I would recommend to ferment with Lime-water as strong as the fermentation will admit of.

ARNOTTA treated in the same manner; I believe it would be very advantageous to.

This

This affair has already been pretty expensive ; I have, however, sent over four hogheads of Slaked Lime, and two puncheons of Unflaked Lime, which shall be delivered on the same terms as the former, viz. at prime cost, inclusive of the freight, &c. to any persons who are desirous of attempting the improvement of Indigo.

I shall be obliged to any planter (who purchases any of the lime I have sent) that will inform me whether strong Lime-water (by enabling him to ferment longer) does not produce him more Indigo, than in the common way ; and whether it does not prevent the putrefaction of the plant, and the disagreeable defects of it after steeping.

My whole and uniform design in all I have said and done relative to this subject, has been to establish the credit of Indigo, produced from your province, and in every attempt towards the accomplishment of that desirable end, I wish you all possible success, and am a friend to the Carolina planters, and

Their humble Servant,

MELKSHAM, }
May 24, 1774. }

J. LEDYARD.

⚡ The Unflaked or Quick-lime, is much stronger than the Slaked, and it must be kept close and dry, otherwise the spirit of it will be lost before you use it.

The

The affair being communicated to CHARLES GARTH, Esq; Agent for South-Carolina, he interested himself so far in it, as to transmit the following Letter to the Hon. House of Representatives, to induce them, by their public or private influence, to encourage Mr. L.'s proposed methods for improving the value of an article in which that Colony was greatly concerned.

MR. JOHN LEDYARD of MELKSHAM, in the County of Wilts, having been concerned in the business of a Blue-Dyer, upwards of forty years, and in a very large way, has had frequent occasions of observing upon the various sorts of Indigo, and the goodness and qualities thereof; and altho' the Indigo imported from Spain and France is greatly superior to the Carolina, yet from his practice and management, in preparing the various sorts of Indigo for the purpose of dying wool, &c. he is persuaded of the practicability of obtaining Indigo from our own colonies, of such goodness as to be fit for the British Market, and in all likelihood greatly to reduce the demand from France and Spain, by the planters adopting a different mode of process.

Mr. LEDYARD has already submitted his thoughts upon the subject, to the planters in South-Carolina, in a little pamphlet
 E published

published two years ago, and in two papers since transmitted; occasioned by a difference of opinion from him, which has obliged him to add what he could not have thought necessary; that his sole motive and principle in so doing, proceeded from a sincere wish to see the planters in Carolina and our other colonies, happily succeed in the produce and manufacture of Indigo; which must be of great importance to them, and of mutual benefit to Great-Britain and the Southern Colonies.

Mr. LEDYARD having been confirmed in his sentiments, by samples of Indigo lately sent to him from Carolina, and by a letter informed to have been made agreeable to some or other of the directions set forth in his pamphlet, desires Mr. GARTH, agent for South Carolina, and well-known for his attachment to the Interests of that colony, would be pleased to notify to the House of Representatives, that the said samples were carried to Bristol, shewn upon the Exchange there, to the satisfaction, as well as surprize of those conversant in Indigo; who did not think it possible for such good Indigo to have been produced in Carolina; and were valued by Mr. Meyler, an eminent broker in that city, one parcel at seven shillings, and the other at six shillings a pound; and Mr. LEDYARD adds, that upon trial (as far as he can judge from such
small

small quantities) it answered exceeding well, and that all Blue Dyers would be glad to purchase such Indigo, if to be had.

He is induced to request of Mr. GARTH a notification in this manner, in hopes that upon this intelligence, the House of Representatives may think it of consequence to promote and encourage the manufacture of Indigo in Carolina, by some public measure, or by their private influence.

Agreeable to what he has said in several papers already transmitted, he begs leave to observe, that the colour of Carolina Indigo, which has for some time been imported, is equally good and beautiful with the colour of the Spanish; but the comparative *quantity of colour* in each is exceedingly different.---He has experienced often, that the same quantity of Spanish will dye much more than a like quantity of Carolina, altho', before use, both are nearly equal in appearance.

He is sensible that the plant itself, and its qualities, differ in different climates, and variety of soils, and that there are different species of this plant; but he has not a doubt, but that the use of Lime in the several stages of the manufacture, will be the means that the Carolina Indigo will be brought to market with a great deal more of colour in it than (as hitherto in general manufactured) it has been found to have.

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From

From Experience he knows, that the Carolina Indigo has a greater tendency to putrefaction in the Dyers vates than the French or Spanish; which, he is of opinion, is chiefly owing to some material injury it has suffered in the fermenting vate, the battery, or in the drying; and occasioned by putrefaction in some part of the process; and Dyers know that it is of the greatest importance in their vates, to prevent the fermentation from degenerating into putrefaction.

In the several processes therefore recommended by Mr. LEDYARD, he has strongly enforced the use of the strongest Lime: He believes, that the practice in Carolina has not been to make use of Lime in the steeper; the steeping of the Indigo having been considered of no other service, than to impregnate the water with the virtues of the plant; but he is confident, that if the Indigo was steeped in strong Lime-water, and Lime-water used in the battery also, the experiment would fully answer.

All vegetable substances, when moist, have a natural propensity to putrefaction; the offensive smell existing in the plant when growing, argues something of the nature of the plant itself, of a particular tendency to quick putrefaction, and therefore more necessary to be attended to, and guarded against.

Strong

Strong Lime, which has been found by Blue Dyers highly serviceable, and friendly to the Indigo, is the only preservative against such putrefaction, and will more effectually preserve it, by being used in the steeper as well as in the battery; at the same time correcting the smell existing in the plant itself.

Mr. LEDYARD mentions *strong Lime*, as by the fullest experience it is found the most fit, and best adapted to the manufacture of this Dye; oyster-shell Lime being produced from an animal substance, cannot approach so near to the qualities of potential fire, as the Lime made from marble or other hard stone, such as the Rock of St. Vincent near Bristol, which requires sixty hours in burning; the mildness of the oyster-shell Lime produced from an animal substance, makes it indeed more friendly to the human frame, and therefore best, and most used in medical cases: but the hard Stone-lime (being free from any heterogeneous mixture, having nothing of the sea-salt belonging to it, which is known to attract the humid particles of the air; and which consequently cannot be beneficial to a body, light and porous as Indigo) is the only Lime made use of by Blue Dyers in their several processes; as being found to be best adapted for the preservation of Indigo from putrefaction, and for the retention of the colour.

Mr. LEDYARD hopes that the expence of such Lime will not deter any from the use of it, as the increase of that expence can be to no considerable amount; but if it was, it should be considered that the increase in the value of the article, will be infinitely exceeding in proportion; tho' the expence of such Lime may be rendered much less, by importing the hard stone in ballast, and burning it after it's arrival; and which Mr. LEDYARD would rather recommend, as it cannot but happen, that a good deal of the strength and spirit of Lime must be lost in it's passage from distant parts.

In Consequence of what had passed on the Subject in the Carolina Gazette, Mr. L. received the following Letter from Miles Brewton, Esq; an eminent Planter.

CHARLESTOWN, S. Carolina, Oct. 18th, 1774.

SIR,

AS you appear (by some publications in our Gazette not long ago) to be a friend to the culture of Indigo in this colony, and seem to think it is chiefly owing to the oyster-shell lime which we use, that so much of our Indigo is ordinary, I do not think it improper to advise you, that
I have

I have shipped 29 casks of Indigo of this year's make, aboard the Fanny, Captain Mann; for London, mark'd M. B. to the care of Mr. ****, of London, where you might examine it, the whole of which (excepting No. 17 and 18, made with shell-lime) was manufactured agreeable to your directions, with Stone-lime. The casks No. 12, 16, 19, 21, was made upon my own plantations, and the rest by my neighbours, so that you may rely upon my information.

This Indigo is almost in too green a state for shipping, but as I have given it air, by burning holes in the heads of the casks, I flatter myself it will be cured before the vessel arrives; such at is, I shall be glad of your opinion of it, and you'll please to excuse the trouble I have given you.

I am, with Regard, SIR,

Your most obedient Servant,

MILES BREWTON.

EXTRACT of a Letter to M. Brewton, Esq;

THE difference in the quality of Carolina Indigo is so great, that some is not worth 6d. a pound, and some will rise up to 6 or 7s. a pound. This variation in goodness and price, is a great misfortune to the Dyer, who is generally obliged to purchase at random, with no other rule to

go by, than the judgment, or rather ignorance, of the salters, &c; and consequently very often to his own loss. This occasions our buying more French and Spanish than otherwise we would, the difference in price being but 1s. per lb, French now selling from 7s. 6d. to 8s. a pound, a little very fine at 8s 6d ; and the Spanish from 10s to 14s. per pound. This evidently proves how desirable it is for the Carolina Indigo to be brought to some certain standard of goodness, and consequently of price, or nearly so.

Now could you once arrive in the manufacture of this article, to some certainty as to its goodness, you would proceed, as well as the Dyers, on more sure grounds, and the trade on both sides would not be attended with those vexatious disappointments, which it is now liable to.

I desired an eminent Broker in London to buy me some of the casks, giving the preference to those of your own making. Mr. **** sold him three casks, with which he sent me the appraisment of the rest, a copy of which I also send you.

By this valuation you will see, that Stone Lime-water does not hurt the Indigo, those parcels you say are made with it, being estimated more than twenty per Cent, above those made with shell-lime, on an average.

You

You tell me that all except two casks, was made with stone-lime agreeable to my directions; I wish you had been more particular on this head, as to the manner in which it was made, how much lime was used, how long you fermented the plant, &c. &c.

On working up those three casks, I found the Indigo in a putrid state, it stank in the grinding, and was far from answering to its price.

I have had several accounts from London, of the quantity of Carolina Indigo imported, with samples of the best, worst, and middling sorts, and am sorry to find it of so bad a quality.-----They say there is about Nine Hundred Thousand pounds weight arrived this year from Carolina, and 200,000lbs more expected. Of the fine sort 200,000lbs (the same as two-thirds of yours); of the second or middling sort from 3 to 400,000lbs; and of the inferior or low sorts from 4 to 500,000lbs, of the same quality as that made by you with shell-lime. What a loss therefore must your province have sustained for want of using Stone-lime for three years past! I am much inclined to believe that you have some French agents among you, who are busy in misleading the planters.

In my last letter in your Gazette, I recommended in the beginning half a pound

F

of

of Stone-lime to a pound of Indigo; in the latter part I advised to try with as strong lime-water as you can ferment with; a few experiments would determine the precise quantity of lime, or the exact degree of strength in the lime-water.

Stone-lime is a strong Alkali, the plants contain a great deal of acidity or sourness, the strength of the former ought to be sufficient to overcome or prevent the latter; for unless the lime predominates, the acidity will prevail, and as far as it prevails injure the Indigo.

I have before remarked in my pamphlet, that the proper strength of the lime-water may be ascertained by its having a stony scum on the surface, and the sweet limy smell perceived to arise from it, may also help to determine it.

Your Indigo is liable to be injured in fermenting, in drying, and in the cask, if pack'd up moist; lime water strong enough used in the fermentation, would, I am persuaded, secure it in all the stages afterwards. In wet seasons the Indigo is more exposed to danger than in dry ones, owing to the plant being more disposed to turn sour, and to delay in drying: therefore I should think stronger lime-water should be used in those rainy seasons, to prevent the ill effects of them.

I am

I am informed that your summers in 1772, and last year, were wet, and of course the Indigo made in the common way those years, was not near so good as that made in 1773; so that you and your neighbours have found the advantage of having used stone-lime. I am very certain that had you used stronger lime-water, your Indigo would have been much richer in colour than it is; for it is not so good by 2s. 6d. a pound, as some purple that was sent me last year. I should be glad you would try this season one or even two pounds of stone-lime to a pound of Indigo. If you buy it at Bristol, the expence of two pounds of lime will not be a penny, and if your Indigo by that means be two or three shillings a pound better, the advantage will be yours.

In your old way of making Indigo, stagnant corrupted water is hurtful, but lime will correct it, for it is well known that four large spoonfuls of unslaked lime put into a puncheon of 90 gallons of putrid stinking water at sea, will in a night's time, make it as clear and sweet as the best spring water.

As this affair is laid before the Hon. House of Representatives, by CHARLES GARTH, Esq; your agent here, I hope there is some probability of its being publicly known, and encouragement given to

make fair and impartial trials of the methods proposed.

I am yours, &c.

MELKSHAM, }
April 19th, 1775. }

J. LEDYARD.

P. S. Whatever further Information I can, I am very willing to communicate at any time. And I cannot but wish that the Experiments (in my pamphlet) No. 3 & 4, were carefully tried, and the produce of all the Experiments there proposed, sent me, that I might determine which obtained the most colour from equal quantities of the plant; for in this, I conceive, the essence of the business consists.

☞ Mr. L. has been creditably informed, that Mr. BREWTON for himself and neighbours, had consigned to Mr. ———, more than 40 casks of Indigo, since the fore-mentioned 29 casks, from the second cutting of the plant ('tis supposed) the same year, 1774.—By mere accident Mr. L. saw five samples of them, four of which were of a good quality: He bought one of them, No. 46, marked MB. which proved in working it full one shilling in the pound better than the produce of the first cutting. From which it appears, that there was some farther improvement in the manufacture of the second cutting, as the first is generally the best.

The

The CONCLUSION.

FROM the preceding papers several observations arise-----It appears that the great inferiority of the Carolina Indigo to the French and Spanish, does not proceed from any difference in the plant, the soil, or climate.

It is evident that the *Carolina planters*, (and it is probably the same with the planters in the other colonies) *have imbibed a violent prejudice against the use of strong Lime-water in making of Indigo.*

It is also manifest, *that in Dying with Indigo, Lime is essentially necessary-----and that in the partial trials that have been made of strong Lime-water in the manufacture of Indigo, it was not unfriendly to the Dye, but beneficial: by which it is clearly proved, that the planters' dislike to Lime, is without any reason.*

The *grand principle* therefore, adopted by Mr. LEDYARD, and recommended by him, appears to be well founded, which is, *that strong stone lime-water will be highly serviceable in the manufacturing of Indigo; tho' as to the precise degree of strength, or quantity necessary, repeated trials only can determine.*

As it is of great consequence to ascertain precisely the proper time for *stopping the fermentation*, the following method may be

be useful. Let a small hole be made in the steeper, six inches from the bottom; let this hole be stopt with a plug, yet not so firm but that the liquor may ooze through, so as to form a small stream: after the plant has been steeped some time, the liquor thus oozing out, will be of a beautiful green colour, at the lower edge of the steeper, from whence it drops into the beater, it will turn of a copperish colour; and this copperish colour (as the fermentation continues) will ascend upwards to the plug; when that circumstance is perceived, it will be proper to stop the fermentation.

During the progress of this part of the business, particular attention should be paid to the smell of the liquor thus weeping from the aperture; for should it discover any sourness, it will be necessary to let the fermented liquor run immediately into the beater, and lime-water of sufficient strength should be added to it, till it has lost its sourness, and recovered a sweet limy smell; as it is running off, it will appear green, mixed with a bright yellow or straw colour, but in your battery it will be of a most beautiful green.

The superiority of Stone to Shell-lime for this purpose, follows also from the circumstances recited. And as there is Lime-stone in Georgia and the Floridas, it
is

is to be wished that the planters there were properly apprised of the advantages that might flow from a due attention to so favorable a circumstance.

Perhaps a greater degree of warmth, or however, a more regular and uniform warmth, during the process, might contribute to increase the fermentation; which might easily be obtained by erecting sheds over the vates; by which the vicissitudes of the external air, would be in a great measure prevented from affecting the Indigo in any part of the process.

F I N I S.

is to be wished that the plaster there were
properly applied of the advantage that
might flow from a due attention to its
formation a circumstance.
Perhaps a better degree of uniformity or
however a more regular and uniform
surface, during the process, might be con-
sidered to be the result of the formation, which
might easily be obtained by erecting sheds
over the water, by which the vicissitudes
of the external air, would be in a great
measure prevented from affecting the in-
terior in any part of the process.

W. A. 2

ADVERTISEMENT.

THE chief design of this Publication, is to afford some hints that may be of service to the Planters of Indigo in Georgia, the Floridas, Jamaica, Grenada, &c. to engage the attention of the Lords Commissioners of Trade, to an Article of Commerce important and interesting;—and thereby to prevent the losses and inconveniences which arise to the Dyers from the defective state of the Carolina Indigo, and the high price of the French and Spanish, which are circumstances very injurious to that Branch of Trade.

The Author does not mean to engage in any controversy on the subject of the following papers, having already been drawn into more altercation than he desired.—But should any person think it proper, and find it convenient to call upon him, he will with pleasure endeavour to remove any doubts respecting the arguments urged, and explain the nature of the facts upon which they are founded.

ERRATA—Page 16, line 6, for precedent read prudent.

